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Patients' perspectives on integrated oral health care in an Indigenous primary health care organization: a qualitative study

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TITLE PAGE

TITLE

Patients' perspectives on integrated oral health care in an Indigenous primary health care organization: a qualitative study

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48
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3 **Patients' perspectives on integrated oral health care in an Indigenous primary health**
4 **care organization: a qualitative study**
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8

9 **ABSTRACT**
10

11 **Objective** Patient-centered care is considered to be an important element in the evaluation of
12 integrated health care and has been effective in addressing oral health disparities. This study
13 explored the patients' perspectives of patient-centered integrated care in oral health services
14 integrated into a primary health care organization serving a northern Quebec Cree population.
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19 **Design** This study used a multiple case study design within a qualitative approach and
20 developmental evaluation methodology. Two theoretical models, Picker's Principles of
21 Patient-Centered Care and Valentijn's Rainbow Model of Integrated Care, guided data
22 collection and data analysis. The thematic analysis included transcription, debriefing,
23 codification, data display, and interpretation.
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32 **Setting** This study was conducted in purposefully selected four Cree communities of
33 Northern Quebec.
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37 **Participants** Adult patients in need of oral health care and who attended the local dental
38 clinic identified and recruited by maximum variation sampling and snowball techniques.
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41

42 **Outcome measures** Patients' perspectives of patient-centered integrated oral health care.
43

44 **Results** Data analysis generated six major themes: enhanced accessibility, empowering
45 supportive environment, building trust through shared decision making, appreciation of
46 public health programs, raising oral health awareness, and growing culturally competent
47 health care providers. Patients identified the integration of dental care into primary health
48 care with respect to colocation, provision of free oral health care services, care coordination
49 and continuity of care, referral services, developing supportive environment, shared decision
50 making, oral health promotion, and culturally competent care.
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3 **Conclusions** These results confirmed that patient-centered care is an important element of
4 integrated care. Patients valued the use of this concept in all domains and levels of
5 integration. They recommended to further strengthen the clinical integration by involving
6 parents in oral health promotion as well as optimizing care coordination and empowering a
7 supportive environment in organizational integration.
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ARTICLE SUMMARY

Strengths and limitations of this study

1. To our knowledge, this study is the first to evaluate patient-centered integrated oral health care from the patient lens in an Indigenous primary health care organization.
2. In-depth individual interviews allowed a rich exploration of patients' perspectives on patient-centered integrated oral health care in this organization.
3. Results suggest that patient-centered care is an important element of integrated care and it can be facilitated by the factors such as colocation, provision of free dental services, oral health promotion, referral services, care coordination, supportive environment, shared decision making, and culturally competent services.
4. Results are based on small sample size of patients recruited from Cree community hospitals.

INTRODUCTION

Throughout the late 20th century, influential works such as Engel's biopsychosocial model and Balint's Patient-Centered Medicine in North America and Europe have inspired the shift of health care service delivery towards a holistic patient-oriented approach.¹⁻³ During the late 1980s, patient-centered care (PCC) was conceptualized and defined by the Institute of Medicine as: "providing care that is respectful of, and responsive to, individual patient preferences, needs and values, and ensuring that patient values guide all clinical decisions".⁴ PCC applies to all levels of health care organizations irrespective of population and ethnic or cultural groups.^{3 5} Research has demonstrated that implementing PCC in health care organizations can reduce health care costs and improve health care quality and outcomes, patient adherence, patient satisfaction, and care provider satisfaction, and has the potential to alleviate health care disparities.^{3 6-9}

The World Health Organization (WHO) has also developed a global strategy for programs that involve PCC in integrated care to deal with the barriers encountered by current health systems such as demographic transition, highly prevalent chronic diseases, and subsequent economic burden.⁸ As defined by the WHO, integrated care is "bringing together inputs, delivery, management and organisation of services related to diagnosis, treatment, care, rehabilitation and health promotion".¹⁰

Several health care associations and organizations including the Canadian Nurses Association, Canadian Medical Association, and Health Action Lobby have identified PCC as one of the five foundations for integrated care, along with access, relational continuity, management continuity, and information continuity.^{8 11 12} Moreover, ascribing a significant role to PCC in oral health care, several oral health care organizations in Europe, Australia, and North America have introduced PCC as a core element in the evaluation of integrated health care services.^{3 4 13-15} The PCC model of integration of oral health care within primary

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2
3 health has been highlighted to be effective in addressing oral health disparities among
4
5 Indigenous communities.^{16 17} Moreover, the role of PCC becomes imperative in the case of
6
7 Indigenous populations considering historical trauma due to colonization and assimilation
8
9 policies.¹⁸ These historical traumas included loss of homeland, loss of family for children in
10
11 residential schools, loss of traditional cultural practices as well as mistrust, distress, and fear
12
13 towards the intentions of non-Indigenous people.^{19 20} Hence, consideration of Indigenous
14
15 patients' cultural values, beliefs, and preferences, as well as their holistic vision of health, is
16
17 essential in the implementation of PCC in Indigenous populations.¹⁸

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21 According to the recent WHO report there is still lack of evidence focusing on the application
22
23 of people-centered integrated care in primary health care settings.⁸ Furthermore, as
24
25 highlighted in a systematic review by Mills et al. in 2014, there is still a gap in regard to the
26
27 application of PCC concepts from patients' perspectives and in oral health research.³ Also,
28
29 Harnagea et al. emphasized in a recent scoping review the lack of evidence on the outcomes
30
31 of integrated primary oral health care programs among disadvantaged populations.²¹
32
33 Therefore, the objective of this study was to explore patients' perspectives and experiences in
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35 regard to patient-centered integrated oral health care in a primary health care organization
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37 serving a northern Quebec Cree population.
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41 42 **METHODS**

43 44 **Study Design**

45
46 This collaborative study was part of a larger Canadian Institutes of Health Research-funded
47
48 project entitled "Oral Health Integrated into Primary Care: Participatory Evaluation of
49
50 Implementation and Performance in Quebec Cree Communities".²² We adopted a multiple
51
52 case study design within a qualitative approach and developmental evaluation methodology.²³
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56 ²⁴ Developmental evaluation addresses the need of the key stakeholders by building a
57
58 partnership between them and researchers in the assessment of emerging initiatives in their
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2
3 organization.²³ Within this methodology, “a case study design is useful since it allows an in-
4
5 depth understanding of a single or small number of ‘cases’ in their real-world context”.²⁴
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8 Ethics approval for this study was obtained from the Institutional Review Board of the
9
10 Université de Montréal and permission from the Research Committee of the Cree Board of
11
12 Health and Social Services of James Bay. Oral and written consent was obtained from all
13
14 study participants. We followed the ethical guidelines of Ownership, Control, Access and
15
16 Possession (OCAP™) for First Nations.²⁵ This manuscript has been prepared according to the
17
18 Standards for reporting qualitative research.²⁶
19
20

21 **Study setting, participants, and data collection:**

22
23 Over 18,000 Cree people of Eeyou Istchee inhabit nine remote communities in the eastern
24
25 James Bay region of northern Quebec, Canada.²⁷ The health and social services of these
26
27 communities are provided by the Cree Board of Health and Social Services of James Bay
28
29 (CBHSSJB).¹⁵ This organization developed two Strategic Regional Plans, 2004–2014 and
30
31 2016–2021, which mandate a model for the integrated delivery of health and social services
32
33 in the Cree communities including oral health care.^{15 28} Each community has a Community
34
35 Miyupimatiisiuun (wellness) Centre (CMC) that provides health care and social services
36
37 through a team of primary health care providers, including para-professional community
38
39 health representatives.²⁷ Each community has a well-equipped local dental clinic where free
40
41 services are provided by dentists and dental hygienists.²⁷
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47 This study uses the community as the unit of analysis. It was conducted in four Cree
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49 communities that were purposefully selected based on population size as well as on
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51 geographical, cultural, health care, and oral care characteristics. We used maximum variation
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53 sampling and snowball techniques to identify and recruit adult patients (≥ 18 years) in need of
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55 oral health care and who attended the local dental clinic in 2016–2017. In-depth audio-
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57 recorded interviews, on average 60 minutes long, were conducted in English or French by
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59
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1
2
3 two research team members trained in qualitative methods. These team members had no
4 existing relationship with the participants. We designed the semi-structured interview guide
5 based on the Rainbow Model of Integrated Care.^{29 30} Data collection and analysis were
6 performed concurrently.
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11 **Data analysis:**

12 Data analysis included transcription, debriefing, codification, data display, thematic content
13 analysis, and triangulation.³¹ We used the eight Picker Principles of PCC and Valentijn's
14 Rainbow Model of Integrated Care as conceptual models to guide exploring and determining
15 the scope of elements of PCC within the integrated care network.^{29 30 32} Picker's principles
16 comprise: respect for patient's preferences, information and education, access to care,
17 emotional support, involvement of family and friends, continuity and transition, physical
18 comfort, and coordination of care.³² The domains of the Rainbow Model of Integrated Care
19 are characterized by three categories: scope, types, and enablers of integration. Scope
20 comprises person- and population-based care; types include system, organizational,
21 professional, and clinical integration; and enablers include functional and normative
22 integration.^{29 30} We performed a combination of deductive and inductive thematic content
23 analysis using ATLAS.TI software (ATLAS.ti, version 1.6.0, GmbH; Berlin, Germany).³³
24 The deductive approach encompassed the creation of provisional categories derived a priori
25 from the conceptual models. This was embedded with an inductive approach, which consisted
26 in adapting these provisional categories into new categories and themes based on the content
27 of the transcripts^{31 33}. Two research trainees (RS, NK) independently performed the analysis
28 and then discussed the emerging codes in detail until they achieved a consensus on emergent
29 categories and themes. The thematic analysis was revised by the nominated community
30 stakeholders and other research team members (EE, YC, FG, CB, JT, MM).
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RESULTS

Table 1 presents the demographic profile of the 14 participants. Among them, four were working as health care providers who attended the dental clinic as patients for their treatments. The following six themes were generated from our thematic analysis.

1. Enhanced accessibility: Participants highlighted the impact of the integration of oral health into primary health care in facilitating the access to oral health care in terms of the easily accessible location of the dental clinic as well as its proximity within the CMC. Most of the patients perceived colocation as expedient, especially in case of complications and emergencies.

I love how it's [location of the clinic] two in one, like almost ... I know elsewhere it's completely separate. (Participant 3)

I think it would be better to be close just in case sometimes complications do happen, you know it's low chance but it does happen so. (Participant 4)

They also valued the provision of free oral health care services within integrated health care.

[dental services are covered] It makes a difference ... I take advantage of it ... I know it's there ... that's why I always come. (Participant 11)

[fact that the treatments are free] It's the best thing ever! I love it! (Participant 3)

Participants also appreciated referral mechanisms of integrated care at the CBHSSJB organization. These referral mechanisms facilitated provision of specialized dental treatments by the linkage of primary health care to secondary or tertiary levels of health care.

I love how [the orthodontic service] has weekend visits so we don't have to miss work, most of the time I bring my kids. (Participant 3)

Patients acknowledged the need for better care coordination to tackle the long waitlists and to enable follow-ups. They also linked the problem of long waitlists with the limited number

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3 and non-permanency of dental care providers. Nonetheless, they valued the competencies of
4
5 dental care providers in providing quality dental treatments.
6

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8 *My son came once then they never called back ... I did the fill-up sheet ... they*
9
10 *contacted me 3 months later... and it was like a pain no. 5 and the time*
11
12 *when we got here, they had to pull out his tooth (Participant 13)*

13
14 *The waiting lists and I don't think they are being called! I saw that on*
15
16 *Facebook that people complain that they made appointments for them*
17
18 *because they were in pain and there is still no call. (Participant 1)*

19
20 *I think ... we would ... just need another dentist. Because that's what keeps the*
21
22 *long list. (Participant 7)*
23

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26 **2. Creating supportive environment:** Patients expressed the importance of enabling the care,
27
28 especially for those with dental fear and anxiety, by creating a supportive environment at the
29
30 clinic. They preferred the dental clinic environment and oral health care team to be more
31
32 welcoming and empathetic, which in turn can provide psychological support for them.
33

34
35 *Yeah, the approach, the environment. You know the... positivity in the room.*
36
37 *And here like I said they walk in and they're terrified. They won't even open*
38
39 *their mouth. (Participant 4)*
40

41
42 *It needs to be behavior: "Hi, how are you? When was the last time you saw*
43
44 *the dentist?" ... To be more humane, more sympathetic. It will be very nice*
45
46 *for someone to come ... instead of filling the form, to talk with the receptionist*
47
48 *and to leave with an appointment ... that's ideal. (Participant 13)*
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51 **3. Building trust through shared decision making:** Participants highlighted the importance
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53 of including patients in integrated care by engaging them in shared treatment decision
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55 making. Most of the patients recognized the value of information given by oral health care
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57 providers on treatment options and respecting their choices and preferences.
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3 *To be engaged in the treatments, some do and some don't. I had a bad*
4 *experience with my one dentist ... The other one saying, "Ok if that's the way*
5 *you want it." Then they'll just tell us, "This is what's gonna happen if you do it*
6 *this way."* (Participant 4)
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12 Furthermore, participants expressed that shared decision making reinforced building
13 trust with the health care providers and improved the quality of care.
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17 *I think empowering the person to take part in the process, is not a bad thing. It*
18 *actually establishes more of a relation—trust.* (Participant 6)
19
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21 **4. Appreciation of public health programs:** Participants appreciated the continuity of care
22 via CBHSSJB public health programs, which linked promotive and preventive oral health
23 care to primary health care. These public programs included daycare- and school-based oral
24 health programs for children and *Â Mashkûpimâtsît Awash* program for pregnant mother and
25 child care where promotive and preventive dental services were offered by dental and non-
26 dental care providers.
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35 *My grandson is in kindergarten now ... They [dental care providers] do some*
36 *kinds of things at the school ... They just teach him how to brush, they take the*
37 *big teeth model and they teach them to use the brush ... and they give them little*
38 *toothbrushes in packages.* (Participant 2)
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44 **5. Raising oral health awareness:** Patients discussed lack of oral health awareness among the
45 community residents. They expressed the need to promote oral health and increase oral health
46 literacy via creating awareness programs and engaging parents in oral health education.
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51 *I think, for me ... I learned how to take care of my teeth at home with my*
52 *parents.* (Participant 10)
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56 *The parents ... should be, I think it's maybe the number one spot. [Some of the*
57 *parents should be educated more?] Yes. Cause I know some parents have*
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3 *dropped out of school very early and they didn't go through a lot of what*
4 *indicate a parent when it's, like I said ... the dentist visits the schools... and a lot*
5 *of parents don't have that. (Participant 4)*
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10 Patients proposed novel ideas for awareness campaigns via radio, television, social media,
11 and short videos and also during social events such as health nights (youth awareness event),
12 youth festivals, and sports events.
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16
17 *Videos, short videos like showing someone brushing their teeth like two seconds*
18 *of that ... flossing and then a really nice smile different products that could be*
19 *used, just like ... two-minute video ... the beginning of the video to make it like*
20 *that interesting ... it can go on there ... they can share it. (Participant 13)*
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26 *Here it's sports, hockey—to advertise ... It would be very helpful. People might*
27 *not listen but you know it gets in their heads. (Participant 4)*
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31 **6. Growing cultural humility among health care providers:** Participants appreciated having
32 Indigenous people among dental teams and hearing Indigenous language during provision of
33 care. Patients also highly valued non-Cree health professionals' interest in learning their
34 culture, traditions, and language by attending cultural activities and traditional ceremonies
35 that helped them in developing affinity and building trust with the community. They also
36 praised non-Indigenous care providers' attempts to learn and speak Indigenous language to
37 make them feel comfortable during treatment.
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47 *I like that [dental care providers] like to learn. Like they go with the family when*
48 *they go in the bush or whenever, to learn. Or to the gravel pit ... There's lots of*
49 *things you can learn over there. They're always doing stuff ... (Participant 9)*
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54 *Even the dentists. They tried the Cree [Cree word] "keep your mouth opened" and*
55 *they're amazing! (Participant 3)*
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DISCUSSION

It has been two decades since the concept of PCC was first introduced to integrated care.³⁴ Shaw et al. identify PCC as a crux of integrated care and recommend including the patient's perspective as an organizing principle of service delivery.³⁴ To our knowledge, this study is the first to evaluate patient-centered integrated oral health care from the patient lens in an Indigenous health care organization. Study findings demonstrate that these patients valued the integration of oral health care in the primary health care in regard to colocation, free oral health care services, coordination, and continuity of care. They highlighted the importance of respecting their perspectives in clinical decision making, integrating Indigenous personnel in dental teams, optimizing care coordination, providing a supportive environment, and oral health promotion. The emphasis on culturally sensitive care, development of a more supportive environment, and parental engagement for oral health promotion were also linked to addressing the historical impacts such as intergenerational trauma, loss of cultural practices, fear and mistrust, and loss of parenting skills.

We used Picker's principles of PCC for analyzing the results due to their relevance, comprehensiveness, and ability to conceptualize various elements of PCC.³⁵ Our findings support these principles as essential elements in delivering PCC in integrated oral health care³². According to the literature, the patient is a focal point of integrated care.^{36 37} Singer et al. defined integrated patient care and developed a framework based on this definition: "patient care that is coordinated across professionals, facilities, and support systems; continuous over time and between visits; tailored to the patients' needs and preferences; and based on shared responsibility between patient and caregivers for optimizing health".³⁷ Our findings emphasizing the significance of care coordination, continuity of care, shared decision making, and the need for patients' health awareness in PCC are consistent with the results of research studies in other health care disciplines in Australia, the United States, and

1
2
3 various European countries.^{36 38-40} This can suggest that the key features of PCC are the same
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5 in integrated health care irrespective of patients' profile, their type of health problems, and
6
7 the nature of the health care organization. Similarly, Goodwin et al. compared seven case
8
9 studies on successful integrated health and social service programs for people with complex
10
11 needs in seven different countries: Australia, Canada, the Netherlands, New Zealand,
12
13 Sweden, the United Kingdom, and the United States.⁴¹ All these programs have incorporated
14
15 PCC by engaging patients and caregivers, and identify PCC as the basis for implementing
16
17 integrated care programs.⁴¹ Accordingly, our results align with a culturally sensitive
18
19 community-based integrated care Te Whiringa Ora (Care Connections) program in New
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21 Zealand for rural and Indigenous chronic patients in emphasizing culturally relevant PCC by
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23 engaging patients and family members.^{41 42} Our study results are also consistent with the
24
25 evidence on valuing the role of Indigenous care providers in delivering PCC, including the Te
26
27 Whiringa Ora program.^{42 43}

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33 Our results demonstrating the value of clinical shared decision making and supportive
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35 environment as key features of PCC are coherent with the systematic review and original
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37 research conducted by Mills et al. on PCC in general dental practice and from both care
38
39 providers' and patients' perspectives.^{3 44} Moreover, our results are also underpinned by the
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41 recommendation of the Department of Health Resources and Services Administration in the
42
43 United States and other studies on the need for integration of dental and medical care and the
44
45 importance of the colocation in achieving success in PCC.^{17 40}

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49 The themes from our study support the results of the comprehensive scoping reviews and
50
51 original research conducted by Harnagea et al. showing the validity of Rainbow framework
52
53 (Table 2) in term of domains and facilitators of integrated care including culturally relevant
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55 services and existence of public oral health programs.^{17 21} Our study also identified barriers to
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3 integration similar to those identified by Harnagea et al. including human resource issues
4
5 such as lack of trained dental care providers^{17 21}
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7
8 The interviews used in our analysis were collected from a small sample of patients from four
9
10 Cree communities. Though the qualitative approach is not intended for generalizing results,
11
12 the study participants represent a degree of heterogeneity in terms of demographic,
13
14 geographical, oral health status, and oral health care service. The focus on a specific setting
15
16 and organization in this qualitative study generated rich information that prepares the ground
17
18 for further research on the integration of oral health into primary health care.
19
20

21 **CONCLUSION**

22
23 Patients at CBHSSJB acknowledged incorporation of PCC in integrating oral health into
24
25 primary health care and expressed the need to further strengthen the clinical and
26
27 organizational integration. Our results support that fostering PCC can improve integrated
28
29 health care performance.
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For peer review only

TABLES**Table 1. Sociodemographic characteristics of participants (n=14).**

Characteristics	No. participants
Gender	
Male	2
Female	12
Age, years	
31-40	7
41-50	3
51-60	4
Ethnicity	
Cree	13
Non-Cree	1
Employment	
Employed	13
Non-employed	1

Table 2. Interconnections between the Picker's Principles of PCC³² and patient-centered integrated oral health care as reported by Cree patients.

Themes	Picker's Principles
Theme 1. Enhanced accessibility	<ul style="list-style-type: none"> • Access to care • Coordination of care
Theme 2. Creating supportive environment	<ul style="list-style-type: none"> • Respect for patient's preferences • Emotional support • Physical comfort
Theme 3. Building trust through shared decision making	<ul style="list-style-type: none"> • Respect for patient's preferences • Information and education
Theme 4. Appreciation of public health programs	<ul style="list-style-type: none"> • Continuity and transition
Theme 5. Raising oral health awareness	<ul style="list-style-type: none"> • Information and education • Involvement of family and friends
Theme 6. Growing cultural humility among health care providers	<ul style="list-style-type: none"> • Respect for patient's preferences

Table 3: Interconnections between the dimensions of integrated care demonstrated in Rainbow Model^{29 30} and patient-centered integrated oral health care as reported by Cree patients.

Themes	Key features of each dimension for PCC reported by Cree Patients	Domains of integrated care (Rainbow Model of Integrated Care)
Theme 1. Enhanced accessibility	• Colocation	Organizational
	• Financial mechanisms	Functional
	• Interprofessional collaboration	Organizational
	• Professional competencies	Professional
	• Inadequate human resources	Organizational
Theme 2. Creating supportive environment	• Creating supportive environment	Organizational
Theme 3. Building trust through shared decision making	• Interaction between professional and client	Clinical
	• Trust	Organizational
Theme 4. Appreciation of public health programs	• Continuity of care	Clinical
	• Public oral health programs	System
Theme 5. Raising oral health awareness	• Parents as oral health promotion champions	Clinical
Theme 6. Growing cultural humility among health care providers	• Linking cultures	Normative

FOOTNOTES:**• Authors' Statement**

RS contributed to study concept and design; acquisition, data collection, reviewing transcripts, coding, analysis and interpretation of data; drafting and critical revision of the manuscript.

YC contributed to acquisition, data collection, revising analysis and critical revision of the manuscript.

NK contributed to study concept and design; acquisition, reviewing transcripts, coding, analysis and interpretation of data; and drafting the manuscript.

FG contributed to acquisition, data collection, revising analysis and critical revision of the manuscript.

CB contributed to acquisition, revising analysis and critical revision of the manuscript.

MM contributed to acquisition, revising analysis and critical revision of the manuscript.

JT contributed to study concept and design; acquisition, revising analysis and critical revision of the manuscript.

EE contributed to study concept and design; acquisition, data collection, revising analysis and critical revision of the manuscript.

All authors read and approved the final manuscript and are accountable for all aspects of the manuscript.

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4
5 Bone Health Research (CIHR grant number: GI1-145123).
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- 8 • **Competing interests** None declared.
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- 10
- 11 • **Patient consent** Not required.
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- 14 • **Ethics approval** The study received ethical approval from the Institutional Review Board of
15
16 the Université de Montréal numbered 15-130-CERES-P and permission from the Research
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18 Committee of the Cree Board of Health and Social Services of James Bay.
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- 21 • **Provenance and peer review** Not commissioned; externally peer reviewed.
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- 24 • **Data sharing statement** No additional data are available from this study.
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Reporting checklist for qualitative study.

Based on the SRQR guidelines.

Instructions to authors

Complete this checklist by entering the page numbers from your manuscript where readers will find each of the items listed below.

Your article may not currently address all the items on the checklist. Please modify your text to include the missing information. If you are certain that an item does not apply, please write "n/a" and provide a short explanation.

Upload your completed checklist as an extra file when you submit to a journal.

In your methods section, say that you used the SRQR reporting guidelines, and cite them as:

O'Brien BC, Harris IB, Beckman TJ, Reed DA, Cook DA. Standards for reporting qualitative research: a synthesis of recommendations. Acad Med. 2014;89(9):1245-1251.

	Reporting Item	Page Number
#1	Concise description of the nature and topic of the study identifying the study as qualitative or indicating the approach (e.g. ethnography, grounded theory) or data collection methods (e.g. interview, focus group) is recommended	1
#2	Summary of the key elements of the study using the abstract format of the intended publication; typically	4

1			includes background, purpose, methods, results and	
2				
3			conclusions	
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6	Problem formulation	#3	Description and significance of the problem /	7-8
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8			phenomenon studied: review of relevant theory and	
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10			empirical work; problem statement	
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13	Purpose or research	#4	Purpose of the study and specific objectives or questions	8
14	question			
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19	Qualitative approach and	#5	Qualitative approach (e.g. ethnography, grounded theory,	8 and 9
20	research paradigm		case study, phenomenology, narrative research) and	
21			guiding theory if appropriate; identifying the research	
22			paradigm (e.g. postpositivist, constructivist / interpretivist)	
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24			is also recommended; rationale. The rationale should	
25			briefly discuss the justification for choosing that theory,	
26			approach, method or technique rather than other options	
27			available; the assumptions and limitations implicit in	
28			those choices and how those choices influence study	
29			conclusions and transferability. As appropriate the	
30			rationale for several items might be discussed together.	
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44	Researcher	#6	Researchers' characteristics that may influence the	10
45	characteristics and		research, including personal attributes, qualifications /	
46	reflexivity		experience, relationship with participants, assumptions	
47			and / or presuppositions; potential or actual interaction	
48			between researchers' characteristics and the research	
49			questions, approach, methods, results and / or	
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1	Context	#7	Setting / site and salient contextual factors; rationale	9
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4	Sampling strategy	#8	How and why research participants, documents, or	9
5			events were selected; criteria for deciding when no	
6			further sampling was necessary (e.g. sampling	
7			saturation); rationale	
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14	Ethical issues pertaining	#9	Documentation of approval by an appropriate ethics	9
15	to human subjects		review board and participant consent, or explanation for	
16			lack thereof; other confidentiality and data security issues	
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22	Data collection methods	#10	Types of data collected; details of data collection	9
23			procedures including (as appropriate) start and stop	
24			dates of data collection and analysis, iterative process,	
25			triangulation of sources / methods, and modification of	
26			procedures in response to evolving study findings;	
27			rationale	
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36	Data collection	#11	Description of instruments (e.g. interview guides,	10
37	instruments and		questionnaires) and devices (e.g. audio recorders) used	
38	technologies		for data collection; if / how the instruments(s) changed	
39			over the course of the study	
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46	Units of study	#12	Number and relevant characteristics of participants,	9
47			documents, or events included in the study; level of	
48			participation (could be reported in results)	
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54	Data processing	#13	Methods for processing data prior to and during analysis,	10
55			including transcription, data entry, data management and	
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1		security, verification of data integrity, data coding, and	
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6	Data analysis	#14 Process by which inferences, themes, etc. were identified	10
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8		and developed, including the researchers involved in	
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10		data analysis; usually references a specific paradigm or	
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12		approach; rationale	
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16	Techniques to enhance	#15 Techniques to enhance trustworthiness and credibility of	10
17	trustworthiness	data analysis (e.g. member checking, audit trail,	
18		triangulation); rationale	
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23	Syntheses and	#16 Main findings (e.g. interpretations, inferences, and	11-14
24	interpretation	themes); might include development of a theory or	
25		model, or integration with prior research or theory	
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31	Links to empirical data	#17 Evidence (e.g. quotes, field notes, text excerpts,	11-14
32		photographs) to substantiate analytic findings	
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36	Intergration with prior	#18 Short summary of main findings; explanation of how	15-17
37	work, implications,	findings and conclusions connect to, support, elaborate	
38		on, or challenge conclusions of earlier scholarship;	
39	transferability and	discussion of scope of application / generalizability;	
40		identification of unique contributions(s) to scholarship in a	
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51	Limitations	#19 Trustworthiness and limitations of findings	17
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54	Conflicts of interest	#20 Potential sources of influence of perceived influence on	24
55		study conduct and conclusions; how these were	
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4 Funding

#21 Sources of funding and other support; role of funders in

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6 data collection, interpretation and reporting
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BMJ Open

Patients' perspectives on integrated oral health care in a northern Quebec Indigenous primary health care organization: a qualitative study

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SCHOLARONE™
Manuscripts

TITLE PAGE

TITLE

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3 1 **Patients' perspectives on integrated oral health care in a northern Quebec Indigenous**
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5 2 **primary health care organization: a qualitative study**
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9 4 **ABSTRACT**

11 5 **Objective** Patient-centered care is considered to be an important element in the evaluation of
12
13 6 integrated health care and has been effective in addressing oral health disparities. This study
14
15 7 explored the patients' perspectives of patient-centered integrated care in oral health services
16
17 8 integrated into a primary health care organization serving a northern Quebec Cree population.
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19

20 9 **Design** This study used a multiple case study design within a qualitative approach and
21
22 10 developmental evaluation methodology. Two theoretical models, Picker's Principles of
23
24 11 Patient-Centered Care and Valentijn's Rainbow Model of Integrated Care, guided data
25
26 12 collection and data analysis. The thematic analysis included transcription, debriefing,
27
28 13 codification, data display, and interpretation.
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31 14 **Setting** This study was conducted in purposefully selected four Cree communities of
32
33 15 Northern Quebec.
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36 16 **Participants** Adult patients in need of oral health care and who attended the local dental
37
38 17 clinic identified and recruited by maximum variation sampling and snowball techniques.
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41 18 **Outcome measures** Patients' perspectives of patient-centered integrated oral health care.
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44 19 **Results** Data analysis generated six major themes: enhanced accessibility, empowering
45
46 20 supportive environment, building trust through shared decision making, appreciation of
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48 21 public health programs, raising oral health awareness, and growing culturally competent
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50 22 health care providers. Patients identified the integration of dental care into primary health
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52 23 care with respect to colocation, provision of free oral health care services, care coordination
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54 24 and continuity of care, referral services, developing supportive environment, shared decision
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56 25 making, oral health promotion, and culturally competent care.
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3 1 **Conclusions** These results confirmed that patient-centered care is an important element of
4
5 2 integrated care. Patients valued the use of this concept in all domains and levels of
6
7 3 integration. They recommended to further strengthen the clinical integration by involving
8
9 4 parents in oral health promotion as well as optimizing care coordination and empowering a
10
11 5 supportive environment in organizational integration.
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For peer review only

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3 1 **ARTICLE SUMMARY**
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5 2 **Strengths and limitations of this study**
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7
8 3 1. To our knowledge, this study is the first worldwide research that explored the patients'
9
10 4 perspective in regard to the integration of oral health care in an Indigenous primary health
11
12 5 care organization.
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15 6 2. In-depth individual interviews allowed a rich exploration of patients' perspectives on
16
17 7 patient-centered integrated oral health care in this organization.
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19
20 8 3. Results suggest that patient-centered care is an important element of integrated care and it
21
22 9 can be facilitated by the factors such as colocation, provision of free dental services, oral
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24 10 health promotion, referral services, care coordination, supportive environment, shared
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26 11 decision making, and culturally competent services.
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29 12 4. Results are based on small sample size of patients recruited from Cree community
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31 13 hospitals.
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1 INTRODUCTION

2 Throughout the late 20th century, influential works such as Engel's biopsychosocial model
3 and Balint's Patient-Centered Medicine in North America and Europe have inspired the shift
4 of health care service delivery towards a holistic patient-oriented approach.¹⁻³ During the late
5 1980s, patient-centered care (PCC) was conceptualized and defined by the Institute of
6 Medicine as: "providing care that is respectful of, and responsive to, individual patient
7 preferences, needs and values, and ensuring that patient values guide all clinical decisions".⁴
8 PCC applies to all levels of health care organizations irrespective of population and ethnic or
9 cultural groups.^{3 5} Research has demonstrated that implementing PCC in health care
10 organizations can reduce health care costs and improve health care quality and outcomes,
11 patient adherence, patient satisfaction, and care provider satisfaction, and has the potential to
12 alleviate health care disparities.^{3 6-9}

13 The World Health Organization (WHO) has also developed a global strategy for programs
14 that involve PCC in integrated care to deal with the barriers encountered by current health
15 systems such as demographic transition, highly prevalent chronic diseases, and subsequent
16 economic burden.⁸ As defined by the WHO, integrated care is "bringing together inputs,
17 delivery, management and organization of services related to diagnosis, treatment, care,
18 rehabilitation and health promotion".¹⁰

19 Several health care associations and organizations including the Canadian Nurses
20 Association, Canadian Medical Association, and Health Action Lobby have identified PCC
21 as one of the five foundations for integrated care, along with access, relational continuity,
22 management continuity, and information continuity.^{8 11 12} Moreover, ascribing a significant
23 role to PCC in oral health care, several oral health care organizations in Europe, Australia,
24 and North America have introduced PCC as a core element in the evaluation of integrated
25 health care services.^{3 4 13-15} The PCC model of integration of oral health care within primary

1 health has been highlighted to be effective in addressing oral health disparities among
2 Indigenous communities.^{16 17} Moreover, the role of PCC becomes imperative in the case of
3 Indigenous populations considering historical trauma due to colonization and assimilation
4 policies.¹⁸ These historical traumas included loss of homeland, loss of family for children in
5 residential schools, loss of traditional cultural practices as well as mistrust, distress, and fear
6 towards the intentions of non-Indigenous people.^{19 20} Hence, consideration of Indigenous
7 patients' cultural values, beliefs, and preferences, as well as their holistic vision of health, is
8 essential in the implementation of PCC in Indigenous populations.¹⁸

9 According to the recent WHO report there is still lack of evidence focusing on the application
10 of people-centered integrated care in primary health care settings.⁸ Furthermore, as
11 highlighted in a systematic review by Mills et al. in 2014, there is still a gap in regard to the
12 application of PCC concepts from patients' perspectives and in oral health research.³ Also,
13 Harnagea et al. emphasized in a recent scoping review the lack of evidence on the outcomes
14 of integrated primary oral health care programs among disadvantaged populations.²¹
15 Therefore, the objective of this study was to explore patients' perspectives and experiences in
16 regard to patient-centered integrated oral health care in a primary health care organization
17 serving a northern Quebec Cree population.

18 **METHODS**

19 **Study Design**

20 This collaborative study was part of a larger Canadian Institutes of Health Research-funded
21 project entitled "Oral Health Integrated into Primary Care: Participatory Evaluation of
22 Implementation and Performance in Quebec Cree Communities".²² We adopted a multiple
23 case study design within a qualitative approach and developmental evaluation methodology.²³
24 ²⁴ The case study design allows an in-depth understanding of a single or small number of
25 'cases' in their real-world context".²⁴

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3 1 Developmental evaluation addresses the need of the key stakeholders by building a
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5 2 partnership between them and researchers in the assessment of emerging initiatives in their
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7 3 organization.²³ Accordingly, the project started with a planning phase which included a 3-
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9 4 days stay in one of the Cree communities (Mistissini), followed by a 2-days video
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11 5 conferencing workshop few months later (Mistissini and Montreal).²⁵ The details of the
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13 6 workshop have been published previously.²⁵ In the planning phase, the research team
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15 7 conducted several oral presentations and had several focus group discussions and individual
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17 8 face-to-face meetings with Cree community health centers' administrators, community
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19 9 workers, health care providers, and patients. During these various communications, different
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21 10 aspects of the study, such as research objectives, data collection, recruitment strategies, as
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23 11 well as conceptual frameworks were discussed.

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28 12 Ethics approval for this study was obtained from the Institutional Review Board of the
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30 13 Université de Montréal and permission from the Research Committee of the Cree Board of
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32 14 Health and Social Services of James Bay. Oral and written consent was obtained from all
33
34 15 study participants. We followed the ethical guidelines of Ownership, Control, Access and
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36 16 Possession (OCAP™) for First Nations.²⁶ This manuscript has been prepared according to the
37
38 17 Standards for reporting qualitative research.²⁷

39 40 41 42 18 **Study setting, participants, and data collection:**

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44 19 Over 18,000 Cree people of Eeyou Istchee inhabit nine remote communities in the eastern
45
46 20 James Bay region of northern Quebec, Canada.²⁸ The health and social services of these
47
48 21 communities are provided by the Cree Board of Health and Social Services of James Bay
49
50 22 (CBHSSJB).¹⁵ This organization developed two Strategic Regional Plans, 2004–2014 and
51
52 23 2016–2021, which mandate a model for the integrated delivery of health and social services
53
54 24 in the Cree communities including oral health care.¹⁵ ²⁹ Each community has a Community
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56 25 Miyupimatiisiuun (wellness) Centre (CMC) that provides health care and social services
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1 through a team of primary health care providers, including para-professional community
2 health representatives.²⁸ Each community has a well-equipped local dental clinic where free
3 services are provided by dentists and dental hygienists.²⁸

4 This study was conducted in four Cree communities that were purposefully selected based on
5 population size as well as on geographical, cultural, health care, and oral care characteristics.
6 We used maximum variation sampling and snowball techniques to identify and recruit adult
7 patients (≥ 18 years) in need of oral health care and who attended the local dental clinic in
8 2016–2017. In-depth audio-recorded interviews, on average 60 minutes long, were conducted
9 in English or French by two research team members trained in qualitative methods. These
10 team members had no existing relationship with the participants. We designed the semi-
11 structured interview guide based on the Rainbow Model of Integrated Care.^{30 31} Data
12 collection and analysis were performed concurrently until data saturation was reached.^{32 33}
13 Data saturation was reached after the 11th interview; nevertheless, data collection was
14 continued up to 14th interview to ensure the saturation level.

15 **Data analysis:**

16 Data analysis included transcription, debriefing, codification, data display, thematic content
17 analysis, and triangulation.³² We used the eight Picker Principles of PCC and Valentijn's
18 Rainbow Model of Integrated Care as conceptual models to guide exploring and determining
19 the scope of elements of PCC within the integrated care network.^{30 31 34} Picker's principles
20 comprise: respect for patient's preferences, information and education, access to care,
21 emotional support, involvement of family and friends, continuity and transition, physical
22 comfort, and coordination of care.³⁴ The domains of the Rainbow Model of Integrated Care
23 are characterized by three categories: scope, types, and enablers of integration. Scope
24 comprises person- and population-based care; types include system, organizational,
25 professional, and clinical integration; and enablers include functional and normative

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2
3 1 integration.^{30 31} We performed a combination of deductive and inductive thematic content
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5 2 analysis using ATLAS.TI software (ATLAS.ti, version 1.6.0, GmbH; Berlin, Germany).³⁵
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7 3 The deductive approach encompassed the creation of provisional categories derived a priori
8
9 4 from the conceptual models. This was embedded with an inductive approach, which consisted
10
11 5 in adapting these provisional categories into new categories and themes based on the content
12
13 6 of the transcripts.^{32 35} Two research trainees (RS, NK) independently performed the analysis
14
15 7 and then discussed the emerging codes in detail until they achieved a consensus on emergent
16
17 8 categories and themes. The thematic analysis was then revised by other research team
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19 9 members (EE, YC, FG, CB, JT, MM). The results of the study were discussed and cross
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21 10 validated with community stakeholders.
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25 26 11 **Patient and Public Involvement:**

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28 12 Patients have been actively engaged and accepted to participate in the study. The study
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30 13 results will be shared with the community members via CHBSSJB.
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33 14 **RESULTS**

34
35 15 Table 1 presents the demographic profile of the 14 participants. Among them, four were
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37 16 working as health care providers who attended the dental clinic as patients for their
38
39 17 treatments. The following six themes were generated from our thematic analysis.
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42 18 **1. Enhanced accessibility:** Participants highlighted the impact of the integration of oral health
43
44 19 into primary health care in facilitating the access to oral health care in terms of the easily
45
46 20 accessible location of the dental clinic as well as its proximity within the CMC. Most of the
47
48 21 patients perceived colocation as expedient, especially in case of complications and
49
50 22 emergencies.
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53
54 23 *I love how it's [location of the clinic] two in one, like almost ... I know*
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56 24 *elsewhere it's completely separate.* (Participant 3)
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3 1 *I think it would be better to be close just in case sometimes complications do*
4
5 2 *happen, you know it's low chance but it does happen so. (Participant 4)*
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8 3 They also valued the provision of free oral health care services within integrated health care.
9

10 4 *[dental services are covered] It makes a difference ... I take advantage of it ... I*
11
12 5 *know it's there ... that's why I always come. (Participant 11)*
13

14 6 *[fact that the treatments are free] It's the best thing ever! I love it! (Participant 3)*
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17 7 Participants also appreciated referral mechanisms of integrated care at the CBHSSJB
18
19 8 organization. These referral mechanisms facilitated provision of specialized dental treatments
20
21 9 by the linkage of primary health care to secondary or tertiary levels of health care.
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23 10 *I love how [the orthodontic service] has weekend visits so we don't have to*
24
25 11 *miss work, most of the time I bring my kids. (Participant 3)*
26
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28 12 Patients acknowledged the need for better care coordination to tackle the long waitlists and to
29
30 13 enable follow-ups. They also linked the problem of long waitlists with the limited number
31
32 14 and non-permanency of dental care providers. Nonetheless, they valued the competencies of
33
34 15 dental care providers in providing quality dental treatments.
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37 16 *My son came once then they never called back ... I did the fill-up sheet ... they*
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39 17 *contacted me 3 months later... and it was like a pain no. 5 and the time*
40
41 18 *when we got here, they had to pull out his tooth (Participant 13)*
42
43

44 19 *The waiting lists and I don't think they are being called! I saw that on*
45
46 20 *Facebook that people complain that they made appointments for them*
47
48 21 *because they were in pain and there is still no call. (Participant 1)*
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51 22 *I think ... we would ... just need another dentist. Because that's what keeps the*
52
53 23 *long list. (Participant 6)*
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56 24 **2. Creating supportive environment:** Patients expressed the importance of enabling the care,
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58 25 especially for those with dental fear and anxiety, by creating a supportive environment at the
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3 1 clinic. They preferred the dental clinic environment and oral health care team to be more
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5 2 welcoming and empathetic, which in turn can provide psychological support for them.

6
7 3 *Yeah, the approach, the environment. You know the... positivity in the room.*

8
9
10 4 *And here like I said they walk in and they're terrified. They won't even open*
11
12 5 *their mouth. (Participant 4)*

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15 6 *It needs to be behavior: "Hi, how are you? When was the last time you saw*
16
17 7 *the dentist?" ... To be more humane, more sympathetic. It will be very nice*
18
19 8 *for someone to come ... instead of filling the form, to talk with the receptionist*
20
21 9 *and to leave with an appointment ... that's ideal. (Participant 13)*

22
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24 10 **3. Building trust through shared decision making:** Participants highlighted the importance
25
26 11 of including patients in integrated care by engaging them in shared treatment decision
27
28 12 making. Most of the patients recognized the value of information given by oral health care
29
30 13 providers on treatment options and respecting their choices and preferences.

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33 14 *To be engaged in the treatments, some do and some don't. I had a bad*
34
35 15 *experience with my one dentist ... The other one saying, "Ok if that's the way*
36
37 16 *you want it." Then they'll just tell us, "This is what's gonna happen if you do it*
38
39 17 *this way." (Participant 4)*

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42 18 Furthermore, participants expressed that shared decision making reinforced building
43
44 19 trust with the health care providers and improved the quality of care.

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47 20 *I think empowering the person to take part in the process, is not a bad thing. It*
48
49 21 *actually establishes more of a relation—trust. (Participant 5)*

50
51 22 **4. Appreciation of public health programs:** Participants appreciated the continuity of care
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53 23 via CBHSSJB public health programs, which linked promotive and preventive oral health
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55 24 care to primary health care. These public programs included daycare- and school-based oral
56
57 25 health programs for children and *Â Mashkûpimâtsît Awash* program for pregnant mother and

1 child care where promotive and preventive dental services were offered by dental and non-
2 dental care providers.

3 *My grandson is in kindergarten now ... They [dental care providers] do some*
4 *kinds of things at the school ... They just teach him how to brush, they take the*
5 *big teeth model and they teach them to use the brush ... and they give them little*
6 *toothbrushes in packages. (Participant 7)*

7 **5. Raising oral health awareness:** Patients discussed lack of oral health awareness among the
8 community residents. They expressed the need to promote oral health and increase oral health
9 literacy via creating awareness programs and engaging parents in oral health education.

10 *I think, for me ... I learned how to take care of my teeth at home with my*
11 *parents. (Participant 9)*

12 *The parents ... should be, I think it's maybe the number one spot. [Some of the*
13 *parents should be educated more?] Yes. Cause I know some parents have*
14 *dropped out of school very early and they didn't go through a lot of what*
15 *indicate a parent when it's, like I said ... the dentist visits the schools... and a lot*
16 *of parents don't have that. (Participant 4)*

17 Patients proposed novel ideas for awareness campaigns via radio, television, social media,
18 and short videos and also during social events such as health nights (youth awareness event),
19 youth festivals, and sports events.

20 *Videos, short videos like showing someone brushing their teeth like two seconds*
21 *of that ... flossing and then a really nice smile different products that could be*
22 *used, just like ... two-minute video ... the beginning of the video to make it like*
23 *that interesting ... it can go on there ... they can share it. (Participant 13)*

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3 1 *Here it's sports, hockey—to advertise ... It would be very helpful. People might*
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5 2 *not listen but you know it gets in their heads.* (Participant 4)
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8 3 **6. Growing cultural humility among health care providers:** Participants appreciated having
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10 4 Indigenous people among dental teams and hearing Indigenous language during provision of
11
12 5 care. Patients also highly valued non-Cree health professionals' interest in learning their
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14 6 culture, traditions, and language by attending cultural activities and traditional ceremonies
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16 7 that helped them in developing affinity and building trust with the community. They also
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18 8 praised non-Indigenous care providers' attempts to learn and speak Indigenous language to
19
20 9 make them feel comfortable during treatment.
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24 10 *I like that [dental care providers] like to learn. Like they go with the family when*
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26 11 *they go in the bush or whenever, to learn. Or to the gravel pit ... There's lots of*
27
28 12 *things you can learn over there. They're always doing stuff ...* (Participant 8)
29

30 13 *Even the dentists. They tried the Cree [Cree word] "keep your mouth opened" and*
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32 14 *they're amazing!* (Participant 3)
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38 16 **DISCUSSION**

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40 17 It has been two decades since the concept of PCC was first introduced to integrated care.³⁶
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42 18 Shaw et al. identify PCC as a crux of integrated care and recommend including the patient's
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44 19 perspective as an organizing principle of service delivery.³⁶ To our knowledge, this study is
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46 20 the first worldwide research that explored the patients' perspective in regard to the integration
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48 21 of oral health care in an Indigenous primary health care organization.

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50 22 Study findings demonstrate that these patients valued the integration of oral health care in
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52 23 primary health care in regard to colocation, free oral health care services, coordination, and
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54 24 continuity of care. They highlighted the importance of respecting their perspectives in clinical
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56 25 decision making, integrating Indigenous personnel in dental teams, optimizing care
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1 coordination, providing a supportive environment, and oral health promotion. The emphasis
2 on culturally sensitive care, development of a more supportive environment, and parental
3 engagement for oral health promotion were also linked to addressing the historical impacts
4 such as intergenerational trauma, loss of cultural practices, fear and mistrust, and loss of
5 parenting skills.

6 We used Picker's principles of PCC for analyzing the results due to their relevance,
7 comprehensiveness, and ability to conceptualize various elements of PCC.³⁷ Our findings
8 support these principles as essential elements in delivering PCC in integrated oral health
9 care³⁴ (Table 2). According to the literature, the patient is a focal point of integrated care.^{38 39}
10 Singer et al. defined integrated patient care and developed a framework based on this
11 definition: "patient care that is coordinated across professionals, facilities, and support
12 systems; continuous over time and between visits; tailored to the patients' needs and
13 preferences; and based on shared responsibility between patient and caregivers for optimizing
14 health".³⁹ Our findings emphasizing the significance of care coordination, continuity of care,
15 shared decision making, and the need for patients' health awareness in PCC are consistent
16 with the results of research studies in other health care disciplines in Australia, the United
17 States, and various European countries.^{38 40-42} This can suggest that the key features of PCC
18 are the same in integrated health care irrespective of patients' profile, their type of health
19 problems, and the nature of the health care organization. Similarly, Goodwin et al. compared
20 seven case studies on successful integrated health and social service programs for people with
21 complex needs in seven different countries: Australia, Canada, the Netherlands, New
22 Zealand, Sweden, the United Kingdom, and the United States.⁴³ All these programs have
23 incorporated PCC by engaging patients and caregivers, and identify PCC as the basis for
24 implementing integrated care programs.⁴³ Accordingly, our results align with a culturally
25 sensitive community-based integrated care Te Whiringa Ora (Care Connections) program in

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3 1 New Zealand for rural and Indigenous chronic patients in emphasizing culturally relevant
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5 2 PCC by engaging patients and family members.^{43 44} Our study results are also consistent with
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7 3 the evidence on valuing the role of Indigenous care providers in delivering PCC, including
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9 4 the Te Whiringa Ora program.^{44 45}
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11 5 Our results demonstrating the value of clinical shared decision making and supportive
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13 6 environment as key features of PCC are coherent with the systematic review and original
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15 7 research conducted by Mills et al. on PCC in general dental practice and from both care
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17 8 providers' and patients' perspectives.^{3 46} Moreover, our results are also underpinned by the
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19 9 recommendation of the Department of Health Resources and Services Administration in the
20
21 10 United States and other studies on the need for integration of dental and medical care and the
22
23 11 importance of the colocation in achieving success in PCC.^{17 42}
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25 12 The themes from our study support the results of the comprehensive scoping reviews and
26
27 13 original research conducted by Harnagea et al. showing the validity of Rainbow framework in
28
29 14 term of domains (Table 3) and facilitators of integrated care including culturally relevant
30
31 15 services and existence of public oral health programs.^{17 21} Our study also identified barriers to
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33 16 integration similar to those identified by Harnagea et al. including human resource issues
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35 17 such as lack of trained dental care providers.^{17 21}
36
37 18 These results should be interpreted within the consideration of few limitations. Firstly, the
38
39 19 study included a small sample of patients visiting the Cree dental clinics. This may have
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41 20 influenced the study results since it didn't include the perspectives of those who are not using
42
43 21 dental services. Secondly, few males participated in the study. This could be explained by the
44
45 22 fact that women more use dental services than men.⁴⁷⁻⁵⁰ Finally, though the qualitative
46
47 23 approach is not intended for generalizing results, the study participants represented a degree
48
49 24 of heterogeneity in terms of demographics and oral health status. The focus on a specific
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3 1 setting and organization in this qualitative study generated rich information that prepares the
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5 2 ground for further research on the integration of oral health into primary health care.
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8 **CONCLUSION**

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10 4 Patients at CBHSSJB acknowledged incorporation of PCC in integrating oral health into
11
12 5 primary health care and expressed the need to further strengthen the clinical and
13
14 6 organizational integration. Our results support that fostering PCC can improve integrated
15
16 7 health care performance.
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19 **ACKNOWLEDGMENTS**

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21
22 9 We are grateful to all study participants from Cree communities for sharing their experiences
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24 10 as well as the community stakeholders who helped us to recruit them.
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For peer review only

TABLES**Table 1. Sociodemographic characteristics of participants (n=14).**

Characteristics	No. participants
Gender	
Male	2
Female	12
Age, years	
31-40	7
41-50	3
51-60	4
Ethnicity	
Cree	13
Non-Cree	1
Employment	
Employed	13
Non-employed	1

Table 2. Interconnections between the Picker's Principles of PCC³² and patient-centered integrated oral health care as reported by Cree patients.

Themes	Picker's Principles
Theme 1. Enhanced accessibility	<ul style="list-style-type: none"> • Access to care • Coordination of care
Theme 2. Creating supportive environment	<ul style="list-style-type: none"> • Respect for patient's preferences • Emotional support • Physical comfort
Theme 3. Building trust through shared decision making	<ul style="list-style-type: none"> • Respect for patient's preferences • Information and education
Theme 4. Appreciation of public health programs	<ul style="list-style-type: none"> • Continuity and transition
Theme 5. Raising oral health awareness	<ul style="list-style-type: none"> • Information and education • Involvement of family and friends
Theme 6. Growing cultural humility among health care providers	<ul style="list-style-type: none"> • Respect for patient's preferences

Table 3: Interconnections between the dimensions of integrated care demonstrated in Rainbow Model^{29 30} and patient-centered integrated oral health care as reported by Cree patients.

Themes	Key features of each dimension for PCC reported by Cree Patients	Domains of integrated care (Rainbow Model of Integrated Care)
Theme 1. Enhanced accessibility	• Colocation	Organizational
	• Financial mechanisms	Functional
	• Interprofessional collaboration	Organizational
	• Professional competencies	Professional
	• Inadequate human resources	Organizational
Theme 2. Creating supportive environment	• Creating supportive environment	Organizational
Theme 3. Building trust through shared decision making	• Interaction between professional and client	Clinical
	• Trust	Organizational
Theme 4. Appreciation of public health programs	• Continuity of care	Clinical
	• Public oral health programs	System
Theme 5. Raising oral health awareness	• Parents as oral health promotion champions	Clinical
Theme 6. Growing cultural humility among health care providers	• Linking cultures	Normative

FOOTNOTES:**• Authors' Statement**

RS contributed to study concept and design; acquisition, data collection, reviewing transcripts, coding, analysis and interpretation of data; drafting and critical revision of the manuscript.

YC contributed to acquisition, data collection, revising analysis and critical revision of the manuscript.

NK contributed to study concept and design; acquisition, reviewing transcripts, coding, analysis and interpretation of data; and drafting the manuscript.

FG contributed to acquisition, data collection, revising analysis and critical revision of the manuscript.

CB contributed to acquisition, revising analysis and critical revision of the manuscript.

MM contributed to acquisition, revising analysis and critical revision of the manuscript.

JT contributed to study concept and design; acquisition, revising analysis and critical revision of the manuscript.

EE contributed to study concept and design; acquisition, data collection, revising analysis and critical revision of the manuscript.

All authors read and approved the final manuscript and are accountable for all aspects of the manuscript.

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2
3 du Québec, the Network for Canadian Oral Health Research, and the Network for Oral and
4
5 Bone Health Research (CIHR grant number: GI1-145123).
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- 8 • **Competing interests** None declared.
- 9
- 10
- 11 • **Patient consent** Not required.
- 12
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- 14 • **Ethics approval** The study received ethical approval from the Institutional Review Board of
15
16 the Université de Montréal numbered 15-130-CERES-P and permission from the Research
17
18 Committee of the Cree Board of Health and Social Services of James Bay.
19
- 20
- 21 • **Provenance and peer review** Not commissioned; externally peer reviewed.
- 22
- 23
- 24 • **Data sharing statement** No additional data are available from this study.
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Reporting checklist for qualitative study.

Based on the SRQR guidelines.

Instructions to authors

Complete this checklist by entering the page numbers from your manuscript where readers will find each of the items listed below.

Your article may not currently address all the items on the checklist. Please modify your text to include the missing information. If you are certain that an item does not apply, please write "n/a" and provide a short explanation.

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In your methods section, say that you used the SRQR reporting guidelines, and cite them as:

O'Brien BC, Harris IB, Beckman TJ, Reed DA, Cook DA. Standards for reporting qualitative research: a synthesis of recommendations. *Acad Med.* 2014;89(9):1245-1251.

	Reporting Item	Page Number
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|----|--|---|
| #1 | Concise description of the nature and topic of the study identifying the study as qualitative or indicating the approach (e.g. ethnography, grounded theory) or data collection methods (e.g. interview, focus group) is recommended | 1 |
| #2 | Summary of the key elements of the study using the abstract format of the intended publication; typically | 4 |

1			includes background, purpose, methods, results and	
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3			conclusions	
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6	Problem formulation	#3	Description and significance of the problem /	7-8
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8			phenomenon studied: review of relevant theory and	
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13	Purpose or research	#4	Purpose of the study and specific objectives or questions	8
14	question			
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19	Qualitative approach and	#5	Qualitative approach (e.g. ethnography, grounded theory,	8 and 9
20	research paradigm		case study, phenomenology, narrative research) and	
21			guiding theory if appropriate; identifying the research	
22			paradigm (e.g. postpositivist, constructivist / interpretivist)	
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24			is also recommended; rationale. The rationale should	
25			briefly discuss the justification for choosing that theory,	
26			approach, method or technique rather than other options	
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28			those choices and how those choices influence study	
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30			rationale for several items might be discussed together.	
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44	Researcher	#6	Researchers' characteristics that may influence the	10
45	characteristics and		research, including personal attributes, qualifications /	
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1	Context	#7	Setting / site and salient contextual factors; rationale	9
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4	Sampling strategy	#8	How and why research participants, documents, or	9
5			events were selected; criteria for deciding when no	
6			further sampling was necessary (e.g. sampling	
7			saturation); rationale	
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14	Ethical issues pertaining	#9	Documentation of approval by an appropriate ethics	9
15	to human subjects		review board and participant consent, or explanation for	
16			lack thereof; other confidentiality and data security issues	
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22	Data collection methods	#10	Types of data collected; details of data collection	9
23			procedures including (as appropriate) start and stop	
24			dates of data collection and analysis, iterative process,	
25			triangulation of sources / methods, and modification of	
26			procedures in response to evolving study findings;	
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36	Data collection	#11	Description of instruments (e.g. interview guides,	10
37	instruments and		questionnaires) and devices (e.g. audio recorders) used	
38	technologies		for data collection; if / how the instruments(s) changed	
39			over the course of the study	
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46	Units of study	#12	Number and relevant characteristics of participants,	9
47			documents, or events included in the study; level of	
48			participation (could be reported in results)	
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54	Data processing	#13	Methods for processing data prior to and during analysis,	10
55			including transcription, data entry, data management and	
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1		security, verification of data integrity, data coding, and	
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6	Data analysis	#14 Process by which inferences, themes, etc. were identified	10
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16	Techniques to enhance	#15 Techniques to enhance trustworthiness and credibility of	10
17	trustworthiness	data analysis (e.g. member checking, audit trail,	
18		triangulation); rationale	
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23	Syntheses and	#16 Main findings (e.g. interpretations, inferences, and	11-14
24	interpretation	themes); might include development of a theory or	
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26		model, or integration with prior research or theory	
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31	Links to empirical data	#17 Evidence (e.g. quotes, field notes, text excerpts,	11-14
32		photographs) to substantiate analytic findings	
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36	Intergration with prior	#18 Short summary of main findings; explanation of how	15-17
37	work, implications,	findings and conclusions connect to, support, elaborate	
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39	transferability and	on, or challenge conclusions of earlier scholarship;	
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51	Limitations	#19 Trustworthiness and limitations of findings	17
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#21 Sources of funding and other support; role of funders in

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